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## QUALITY OF CARE AND OUTCOMES ASSESSMENT

# CYTOCHROME P450 2C19 681G>A POLYMORPHISM IN CORONARY HEART DISEASE PATIENTS TREATED WITH CLOPIDOGREL IN CHINESE.

ACC Poster Contributions
Ernest N. Morial Convention Center, Hall F
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Session Title: CYP2C19 Variants, Clopidogrel, and Outcomes
Abstract Category: 48. Genetics and Clinical Outcomes
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**Background:** The frequent genetic functional variant 681 G>A (*2) of cytochrome P450 2C19 (CYP2C19) is an important contributor to the wide variability between individuals of the antiplatelet effect of clopidogrel. We wanted to investigate whether the CYP2C19*2 polymorphism affected long-term prognosis of Chinese patients who were treated with clopidogrel after percutaneous coronary intervention(PCI).

**Methods:** Between January 1,2008 and December 31,2009,267 Patients who received PCI and were exposed to clopidogrel treatment for almost 12 months, were enrolled in Fu Wai Hospital and underwent CYP2C19*2 determination. Follow-up was 12 months. The primary endpoint was a composite of death, myocardial infarction, urgent coronary revascularisation and stent thrombosis.occurring during exposure to clopidogrel. .

**Results:** The patients were grouped CYP2C19*1/*1(n=130), CYP2C19*1/*2(n=111) and CYP2C19*2/*2(n=26) by genetype, and baseline characteristics were balanced among the three groups. Urgent coronary revascularization occurred more frequently in CYP2C19*2/*2 and CYP2C19*1/*2 than in CYP2C19*1/*1(3 vs 7 vs 2, P<0.05). There were no significant difference among three groups with myocardial infarction, stent thrombosis and death (P>0.05). The combined end points also occurred more frequently in CYP2C19*2/*2 and CYP2C19*1/*2 than in CYP2C19*1/*1(4 vs 7 vs 3, P<0.05). During the following time, cumulative survival of CYP2C19*2/*2 was lower than CYP2C19*1/*1(HR=5.65[95%CI:1.63-19.49],P=0.006). Comparing Cumulative survival of CYP2C19*1/*2 with CYP2C19*1/*1, there were no significant difference (HR=1.69[95%CI:0.53-5.36],P=0.376).

**Conclusions:** CYP2C19*2 genetic variant is a major determinant of prognosis in chinese patients with cardiac heart disease(CHD) who are receiving clopidogrel treatment after PCI. CYP2C19*2/*2(homozygous) brings a worse influence than CYP2C19*1/*2(heterozygous).